



Theme Implementation Plan for Cadastre Theme

Bureau of Land Management

Federal Geographic Data Committee (FGDC)

October 31, 2018



Cadastral Theme FY 2018 Implementation Plan Report



Overview

As part of meeting the requirements under [OMB Circular A-16 Supplemental Guidance](#) and [OMB Circular A-16 Appendix E - NGDA Data Themes, Definitions, and Lead Agencies](#) for NGDA Portfolio Management and NGDA Theme Management, NGDA Themes Leads for a Theme, in coordination with associated NGDA Dataset Managers, have developed Theme Strategic Plans and corresponding implementation plans for each Theme in the NGDA Portfolio. This report provides information on implementing the goals, objectives, and actions outlined in the Cadastral Theme Strategic Plan (link below). The report includes information on Cadastral Theme Personnel (Table 1), National Geospatial Data Asset (NGDA) Datasets associated with the Cadastral Theme (Table 2), and the human and financial resources needed to manage the Theme (Table 3). Table 4 provides a status update on progress made in the current reporting period toward meeting the Cadastral Theme Strategic Plan goals and objectives. Table 5 provides details on the Cadastral Theme Implementation Plan.

Cadastral Theme Strategic Plan

https://communities.geoplatform.gov/ngda-cadastral/wp-content/uploads/2018/04/Cadastral_Theme_Strategic_Plan_20170401.pdf

Cadastral Theme Personnel

Cadastral personnel play a vital role in the operation and maintenance of Cadastral Theme NGDA Datasets. They are “individuals who provide interdepartmental leadership and coordination at the NGDA Theme level. They work with component NGDA Dataset Managers to develop standards and provide guidance. The NGDA Theme Lead, or designee, chairs the NGDA Theme’s Thematic Committee and manages the annual process of providing NGDA Dataset collaboration and funding recommendations to the FGDC Steering Committee for those NGDA Datasets within their NGDA Theme. Additionally, the NGDA Theme Lead reports to the Executive NGDA Theme Champion and the FGDC Coordination Group on the NGDA Theme’s activities and investments (both current and planned).” Table 1 provides a summary of current Cadastral Theme Personnel followed by Table 2 that lists the NGDA Datasets that comprise the Theme.

Theme Personnel	
Theme Lead :	Dominica VanKoten, Chief Cadastral Surveyor
Theme Lead Agency(ies):	Bureau of Land Management (BLM) - Cadastral Survey/Geosciences
Executive Theme Champion(s):	Tod Dabolt
Executive Champion Agency(ies):	Department of Interior

Table 1. Personnel Involved in Theme Management.

Cadastre Theme NGDA Datasets	NGDA Agency
U.S. Army Corps of Engineers Civil Work Land Data	DOD-USACE
BIA Indian Lands Dataset (Indian Lands of the United States)	DOI-BIA
Public Land Survey System (PLSS) Dataset Catalog	DOI-BLM
Department of Defense Land Parcels and Sites	DOD-AT&LA&S
BLM National Surface Management Agency: Area Polygons, Withdrawal Area Polygons, and Special Public Purpose Withdrawal Area Polygons	DOI-BLM
FS National Forest Dataset (US Forest Service Proclaimed Forests)	USDA-USFS
FWS Interest	DOI-FWS
NPS National Parks Dataset	DOI-NPS
Outer Continental Shelf Active and Official Lease and Protraction Blocks – several data sets	DOI-BOEM
Protected Areas Database of the United States (PAD-US)	DOI-USGS

Table 2. NGDA Datasets within the Theme.

Human and Financial Resources Needed for Theme Management

The following table provides an estimate of resources needed for managing this Theme. It includes different activities, the roles that support them, as well as an estimated decimal Full Time Equivalent (FTE) and FTE grade. This estimate does not include the resources required for the agency to develop and maintain the NGDA Dataset(s) that make up the Theme to meet the agency’s core mission requirements.

Reporting Period for Human and Financial Resources¹: October 2017 to September 2018

Description of Theme Management Activities	Role <i>(Theme Lead, co-Theme Lead, NGDA Coordinator, other as specified)</i>	FTE²	FTE Grade
A–16 NGDA Theme management (e.g., attend meetings, review NGDA documents, develop Theme Strategic Plans, etc.)	Theme Lead	.10	14
Other Theme administration activities Workgroup coordination and support (three workgroups)	Workgroup support	.20	13
Other Theme administration activities Provide community information, publish and disseminate standards of interest, coordinate with vendors and private sector to implement standards and provide standardized cadastral data, maintain an inventory of authoritative sources, maintain a listing of workgroup participants and Cadastral Subcommittee members, and provide FGDC annual reports.	Reporting and Administrative Theme Support	.10	13

Table 3. Human and Financial Resources Needed for Theme Management.

¹ Reporting period should align with October 1 – September 30 and be submitted by October 31.

² A full-time employee was available a maximum of 1952 hours during the inclusive period of October 1 – September 30; assuming a Monday-Friday schedule with 8-hour workdays and not counting Federal Holidays. The FTE was determined by taking actual number of hours worked in support of Theme Management divided by 1952 hours, rounded to the nearest 0.01.

Progress against Goals and Objectives

The following table shows the progress status made toward achieving the Theme's Strategic Plan goals and objectives since the last reporting period. Status categories include 'Not Started' for those activities that have not gotten underway in the reporting period; 'In Progress' for those activities underway which will continue into the next year; 'Complete' for the activities finished, or 'Recurring' (completed for the current reporting period).

Summary of Goals and Objectives undertaken during 2018		Status
Goal 1: Cadastral Reference - Including the Pubic Land Survey System (PLSS) and Others Identify state and federal data stewards for Cadastral Reference, coordinate and support the effective collection and maintenance of the Cadastral Reference National Geospatial Data Asset (NGDA) Datasets, facilitate sharing and data availability socialization of the Cadastral Reference data sets, and provide outreach and communication mechanisms for data stewards		
Objective 1.1: Complete PLSS Data Steward Program		Completed for FY2018 Recurring
Objective 1.2: Complete non-PLSS Cadastral Reference Data Set Definitions		In Progress
Goal 2: Public Lands Surface Agency Management Coordinate with the US Geological Survey (USGS) in developing the Protected Areas Database of the US (PAD-US), a representation of federally owned lands and management designations. Provide BLM managed surface lands updates to PAD-US, while continuing to develop the land title and land records-based data set for the Surface Management Agency (SMA), support the publication of PAD-US database and data sets to NGDA services, facilitate sharing and data availability socialization of the SMA and PAD-US information, and provide outreach and communication mechanisms for data stewards.		
Objective 2.1: Standardize BLM Submissions to the PAD-US		In Progress
Objective 2.2: Complete, maintain, and distribute the authoritative PAD-US		Completed for FY2018 Recurring
Goal 3: Federal Subsurface Management Areas - Including offshore and continental There are two federal agencies responsible for federal subsurface rights management, the BLM on continental lands and Bureau of Ocean and Energy Management (BOEM) for offshore lands. Develop an effective aggregation and publication of BLM subsurface records and coordinate with BOEM offshore subsurface records, facilitate sharing and data availability socialization of the Subsurface Management Areas data sets, and establish ongoing coordination mechanisms.		
Objective 3.1: Develop an onshore (continental) nationwide federal subsurface rights data set		In Progress
Objective 3.2: : Develop an offshore nationwide federal subsurface rights data set for publishing and access through the NGDA services. This effort is the responsibility of BOEM. The following are the NGDA data sets and activities.		Completed – in maintenance

Goal 4: Land Management Agency Coordination (Federal Land Management Agency Cadastral Coordination) Provide coordination with other land management agencies and support collection, maintenance, standardization, access, and publication within the scope and responsibilities of A-16. The objectives and action items are identified and are the responsibility of the lead agency listed in the objective.	
Objective 4.1: National Park Service (NPS)	Completed for FY 2018 Recurring
Objective 4.2: Department of Defense (DoD)	Completed for FY 2018 Recurring
Objective 4.3: Forest Service (FS)	Completed for FY 2018 Recurring
Objective 4.4: Fish and Wildlife Service (FWS)	Completed for FY 2018 Recurring
Objective 4.5: Bureau of Indian Affairs (BIA)	Completed for FY 2018 Recurring
Goal 5: Parcel Data - Including Federal Rights and Interests and coordination of non-federal data sets Federal agencies do not have the authority to collect or maintain parcel data on non-federally managed lands. For non-federal lands facilitate an inventory of available parcel data and facilitate state aggregated standardized data. For federally managed lands (including tribal lands and offshore) coordinate with the managing agency to identify federal rights held or managed and facilitate sharing and data availability socialization of data sets and provide outreach and communication mechanisms for federal land management agencies.	
Objective 5.1: Complete a parcel data web service standard	In Progress
Goal 6: Coordination (Across Themes and Levels of Government and the Private Sector) Cadastral data by its nature is used by many other themes and also consumes data from other themes. We have identified several coordination agencies and themes and will continue to work with these other themes to ensure consistent standardization, vertical alignment, and appropriate currency.	
Objective 6.1: Inputs - Identify themes that collect data that affect cadastral data	In Progress
Objective 6.2: Outreach	In Progress
Objective 6.3: Communication and Education	In Progress

Table 4. Theme Implementation Plan Progress Status.

Theme Implementation Plan

The following table provides details for achieving Theme Strategic Plan goals and objectives over the multi-year planning period. These include roles and responsibilities, specific actions, milestones, performance indicators and projected completion dates.

Goal 1: Cadastral Reference - Including the Pubic Land Survey System (PLSS) and Others Identify state and federal data stewards for Cadastral Reference, coordinate and support the effective collection and maintenance of the Cadastral Reference National Geospatial Data Asset (NGDA) Datasets, facilitate sharing and data availability socialization of the Cadastral Reference data sets, and provide outreach and communication mechanisms for data stewards				
Objective 1.1: Complete PLSS Data Steward Program Agency and/or Stakeholders Involved: All Federal Land management agencies, state agencies and local governments in the 30 Public Domain States Anticipated Outcome: Maintained PLSS data sets for all 30 public domain states, updated at least annual as needed, establishing a single authoritative PLSS data set for each state				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
1.1.1 Continuous update of PLSS data sets	complete update data	Data set improvement occurs incrementally	BLM Cadastral Survey	2017 and ongoing
1.1.2 Publish updates of PLSS data to NGDA services	published data sets	published data sets	BLM Cadastral Survey	2017
Agency and/or Stakeholder	Activity through FY 2017			
BLM	Ongoing maintenance, updates are published on a regular basis through the BLM navigator site or for alternate download through the Cadastral Subcommittee outreach site			

Objective 1.2: Complete non-PLSS Cadastral Reference Data Set Definitions

Agency and/or Stakeholders Involved: All Federal Land Management Agencies, state agencies and local governments in the 20 non-PLSS States

Anticipated Outcome: Define, review, and adopt a cadastral reference system for each of the 20 non-PLSS states. Maintainable published cadastral reference data set for each of the 20 non-PLSS states with data documentation. This is not a funded activity therefore establishing milestones and projected completion is not feasible. Volunteer contributions from non-federal stakeholders and the private sector are being advanced voluntarily.

Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
1.2.1 Establish a non-PLSS cadastral reference community	Initial outreach and conceptual planning FY2018 and FY2019.	Draft Non-PLSS reference documented	Initial planning and coordination with the BLM Eastern States office has occurred. Expected completion FY2020.	Fiscal Year 2020
1.2.2 Develop and socialize draft non-PLSS cadastral data set to gather input from non-PLSS data stewards.	Distribute draft plan to identified community FY2021.	input gathered from data producers and users	Pilot test areas within non-PLSS states are being studied.	Fiscal Year 2021
1.2.3 Finalize non-PLSS cadastral reference data set with documentation and publish to nationalcad.org	Finalize draft and publish FY2022	Non-PLSS reference documented. Publication of documentation complete	Conceptual plan and identification of stakeholders underway.	Fiscal Year 2022
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			

Goal 2: Public Lands Surface Agency Management

Coordinate with the US Geological Survey (USGS) in developing the Protected Areas Database of the US (PAD-US), a geospatial representation of federally owned lands and management designations. Provide BLM managed surface lands updates to PAD-US, while continuing to develop the land title and land records-based data set for the Surface Management Agency (SMA), support the publication of PAD-US database and data sets to NGDA services, facilitate sharing and data availability socialization of the SMA and PAD-US information, and provide outreach and communication mechanisms for data stewards.

Objective 2.1: Standardize BLM Submissions to the PAD-US

Agency and/or Stakeholders Involved: BLM and USGS

Anticipated Outcome: An automated and consistent workflow and data submission for PAD-US updates on an annual basis from BLM National Operations Center (NOC). Completion of a database drive master title plat process that will update federal land information.

Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
2.1.1 Document data submission requirements for BLM State Offices			BLM	Ongoing
2.1.2 Review current BLM land management (SMA) data sets, update and maintenance and submission procedures. Identify a BLM lead office for coordination and submissions.			BLM	Ongoing
2.1.3 Identify sources in BLM records systems and GIS data for submissions including FMO and LR2000			BLM	Ongoing

2.1.4 Develop data extraction tools and deploy in BLM State Offices to provide for BLM managed lands data in the PAD-US schema, in coordination with USGS			BLM	Ongoing
2.1.5 Document and adopt an authoritative geodatabase submission process from BLM to USGS for PAD-US to provide a sustainable and institutionally acknowledged submission workflow			BLM and USGS	Ongoing
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
BLM	This data will be maintained through a new system BLM is developing called Mineral Lands Record System (MLRS). This system is in procurement.			

Objective 2.2: Complete, maintain, and distribute the authoritative PAD-US

This objective is directly related to and coordinated with the Governmental Units Theme Strategic Plan - Objective 3.3 - The Federal Lands Working Group (FLWG) develops a data standard and the organizational strategies for aggregating federally managed lands in cooperation with U.S. Geological Survey (USGS). Action items identified here reflect the cadastral component of this multi-agency data set

Agency and/or Stakeholders Involved: USGS

Anticipated Outcome: A complete inventory of all public open space and other protected areas available by 2020 to support conservation, recreation and public health assessments, planning, research, policy and management

Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
2.2.1 Federal data: Automate federal land updates and improve quality (completeness, attribute compatibility, overlaps) in PAD-US, by providing agencies with the tools and guidance needed to submit authoritative data in the PAD-US format, through actions of the National Boundaries Group, Federal Lands Working Group (FLWG)	Draft data in PAD-US 2.0 schema due Jan 2017 for USGS review for the next update. NPS, FWS and USFS automated the translation of their lands data into the PAD-US 2.0 schema, in collaboration with USGS, and submitted draft data. Final file development is underway with these agencies.	2018.	USGS, NPS, FWS, USFS	2017/Winter

2.2.2 Resources: Increase the resource base needed to fully support PAD-US and National Conservation Easement Data (NCED) development through matching and / or financial contributions.			USGS, other stakeholders	2017-2020
2.2.3 State data: Complete the state and local / regional land inventory and improve attributes. Collaborate with federal or state agencies and non-government organizations (NGOs) to “catch up” to complete the inventory.			USGS, other stakeholders	2017-2020 Ongoing
2.2.4 State lands leadership: Coordinate and lead the PAD-US State Data Steward Network through a new State Lands Working Group (SLWG) under the NBG Charter.			USGS, National Boundaries Group	2018 ongoing

2.2.5 Build state capacity: Maintain authoritative annual state updates by provisioning additional resources, through matching partnerships and/or new investors, to build the PAD-US State Data Steward Network community.			USGS, other stakeholders	2017-2020 Ongoing
2.2.6 Agency name database: This action is identified in the Governmental Units Theme Strategic Plan - See Objective 3.3 Action 3.3.4.			USGS, BLM, other stakeholders	2017-2018 Ongoing
2.2.7 Biodiversity Measures: Review and improve biodiversity measures in the PAD-US geodatabase (GAP Status Code, IUCN Category) for federal lands.			USGS	2017 Ongoing
2.2.8 Design: Implement the "Version 2" series of PAD-US, with improved data base structure (to better manage overlaps), core technology and data standard.			USGS	2018

2.2.9 Outreach: Host PAD-US overview and technical support webinars for data stewards and users.			USGS	2016-2020
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			

Goal 3: Federal Subsurface Management Areas - Including offshore and continental There are two federal agencies responsible for federal subsurface rights management, the BLM on continental lands and Bureau of Ocean and Energy Management (BOEM) for offshore lands. Develop an effective aggregation and publication of BLM subsurface records and coordinate with BOEM offshore subsurface records, facilitate sharing and data availability socialization of the Subsurface Management Areas data sets, and establish ongoing coordination mechanisms.				
Objective 3.1: Develop an onshore (continental) nationwide federal subsurface rights data set Establish the standards of achievement in terms of a proportionate improvement in the existing condition. Objectives should be specific, measurable, audience- or issue-directed, realistic, and time-bound.				
Agency and/or Stakeholders Involved: BLM				
Anticipated Outcome: A nationwide data set that delineates lands where there is a federal interest in the minerals or other subsurface continental or onshore resources.				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
3.1.1 Develop a core or essential data set content for subsurface rights			BLM	
3.1.2 Develop pilot data sets for eastern (non-PLSS) and western (PLSS) and Alaska data sets and distribute for review and feedback.			BLM	

3.1.3 Develop strategic plan and identified requirements to complete nationwide subsurface data set			BLM	
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			

Objective 3.2: Develop an offshore nationwide federal subsurface rights data set for publishing and access through the NGDA services. This effort is the responsibility of BOEM. The following are the NGDA data sets and activities.

Agency and/or Stakeholders Involved: BOEM

Anticipated Outcome: A nationwide data set that delineates lands where there is a federal interest in the minerals or other subsurface offshore resources

Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
3.2.1 Import NAD27 Outer Continental Shelf (OCS) Lease Blocks for the Gulf of Mexico Region into geodatabases and publish.	Contract awarded FY17/Q1		BOEM	2020
3.2.2 Generate and publish WGS84 OCS Lease Blocks and Official Protraction Diagrams of the principal islands of Hawaii (Pacific Islands dataset)	Blocks generated FY16/Q4		BOEM	

3.2.3 Update Official Protraction Diagrams to reflect the 200 nautical mile boundary (Exclusive Economic Zone boundary).	Approval from DOI SOL		BOEM	
3.2.4 Generate and publish WGS84 OCS Leases Blocks and Official Protraction Diagrams of Guam and the Northern Mariana Islands (Pacific Islands dataset)			BOEM	
3.2.5 Generate and publish NAD83 Official Protraction Diagrams of Puerto Rico and the U.S. Virgin Islands.			BOEM	
3.2.6 Generate NAD83 OCS Lease Blocks for Extended Continental Shelf areas.			BOEM	2019
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
BOEM /Geospatial Services Davison (GSD)	3.2.1 Update - The Import NAD27 OCS Lease Blocks for the Gulf of Mexico Region was completed FY18/Q1. BOEM worked on cleaning up NAD27 and NAD83 data during calendar year 2018. BOEM is currently working on merging all UTM /SPCS zone geodatabases into four regional geodatabases. This work is anticipated to be completed by FY20/Q1. Upon completion, the BOEM mapping website will be updated. The project completion date was updated from 2018 to 2020.			
BOEM/GSD	3.2.2 Update – A Pilot Project, which consisted of three OPDs (NF04-08, NF04-09, and NF04-12) was finished FY18/2Q. The Pilot Project resulted in three published OPDs. The published OPDs were uploaded to the BOEM webpage. The data is not ready to publish. The SOBDs were not generated for the three pilot OPDs. The estimated time of completion is unknown as of FY19/Q2, so the projected completion dates were removed from this document.			
BOEM /GSD	3.2.3, 3.2.4, 3.2.5, 3.2.6 project start times are unknown as of FY19/Q2. All projected Completion Dates were deleted from this document.			

Goal 4: Land Management Agency Coordination (Federal Land Management Agency Cadastral Coordination)

Provide coordination with other land management agencies and support collection, maintenance, standardization, access, and publication within the scope and responsibilities of A-16. The objectives and action items are identified and are the responsibility of the lead agency listed in the objective.

Objective 4.1: National Park Service (NPS)

Agency and/or Stakeholders Involved: NPS and BLM

Anticipated Outcome: NPS is committed to providing regular updates to the best available geospatial data representing both the legislative boundary and parcel ownership information for all park system areas. NPS will continue efforts to improve the maintenance and standardization of this authoritative data in support of efforts like the Protected Areas Database for the US (PAD-US) and, over time the land title based SMA. NPS will continue to actively participate in inter-agency groups whose goal is to improve communication and coordination of multi-agency cadastral data.

Actions (Describe discrete activities)	Milestones	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
4.1.1 NPS will publish a national set of NGDA boundaries on Geoplatform.gov along with a data collection record containing links to ownership data layers and park specific metadata for each individual NPS unit.			NPS	2017
4.1.2 NPS will provide park specific downloads of legislative boundaries, primary ownership data, and park specific metadata on the NPS data clearinghouse, (IRMA). (https://irma.nps.gov/Portal)			NPS	2017

4.1.3 NPS will update this NGDA data quarterly as well as provide notification to the Federal geospatial data community whenever the data is updated.			NPS	2017
4.1.4 NPS will coordinate with FWS and USGS Gap Analysis Program to refine PAD-US translation routines as necessary. NPS will work with FWS to finalize and distribute documentation of this effort to provide guidance to other agencies.			NPS	2017
4.1.5 NPS will be an active participant in inter-agency groups that are dedicated to the sharing and standardization of cadastral data			NPS	2017
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
NPS	Ci-Chair of the PADUS Federal Lands Working group on the BWG			

Objective 4.2: Department of Defense (DoD) Agency and/or Stakeholders Involved: DoD and BLM Anticipated Outcome: Coordination with other federal and tribal land management agency to support standardization and access to published data sets.				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
4.2.1 USACE Develop and maintain the boundary limits of Army Military Land Tracts and Civil Works Land Data. Data are accessible to DOD with limited availability to outside agencies and organizations.			DoD USACE	
4.2.2 The Geospatial Information Officer (GIO) for DoD Energy, Installations, and Environment coordinates a Department-wide land parcel submission to the Geospatial Platform (and similar data sources such as PAD-US). The GIO for DoD will also develop a coordinated approach for controlling sensitive portions of such parcel data.			DoD A&S	

4.2.3 DoD will be an active participant in inter-agency groups that are dedicated to the sharing and standardization of cadastral data like the NBG, the FGDC Cadastral Subcommittee, and the FLS.			DoD	
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
DoD A&S	The Department is completing an agency wide audit that is going. DoD A&S will continue to provide publicly releasable data to PAD-US on an annual basis			

Objective 4.3: Forest Service (FS) Agency and/or Stakeholders Involved: FS and BLM Anticipated Outcome: Coordination with other federal and tribal land management agency to support standardization and access to published data sets.				
Actions (Describe discrete activities)	Milestones	Performance Indicators	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
4.3.1 Provide updates of FS managed lands to PAD-US, for citizen access on web sites, and other agencies or requesters.			FS	
4.3.2 Continue to maintain the FS Land Status Record System (LSRS) data sets			FS	

4.3.3 FS will be an active participant in inter-agency groups that are dedicated to the sharing and standardization of cadastral data like the NBG, the FGDC Cadastral Subcommittee, and the FLS.			FS	
4.3.4 Explore registering the FS LSRS to PLSS CadNSDI on a continuing basis				None
Agency and/or Stakeholder		Activity through FY 2018, 4th Quarter		
FS		Provided data updates to PAD-US		

Objective 4.4: Fish and Wildlife Service (FWS) Agency and/or Stakeholders Involved: FWS and BLM Anticipated Outcome: Coordination with other federal and tribal land management agency to support standardization and access to published data sets.				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
4.4.1 Provide updates to FWS managed lands to PAD-US, for citizen access on web sites, and other agencies or requesters.			FWS	
4.4.2 Continue to maintain the FWS lands data sets.			FWS	

4.4.3 FWS will an active participant in inter-agency groups that are dedicated to the sharing and standardization of cadastral data like the NBG, the FGDC Cadastral Subcommittee, and the FLS.			FWS	
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
FWS	Provided data updates to PAD-US			

Objective 4.5: Bureau of Indian Affairs (BIA)

The Land Buy-Back Program for Tribal Nations implements the land consolidation component of the Cobell Settlement, signed into law by President Barack Obama through the Claims Resolution Act of 2010. The Program is currently planning to continue the purchase of fractionated interests until the end of 2022. In addition to consolidating fractionated interest, the Program has designated up to \$60 million for the Cobell Education Scholarship Fund.

Agency and/or Stakeholders Involved: BIA and BLM

Anticipated Outcome: Consolidated interests immediately restored to tribal trust ownership for uses benefiting the reservation community and tribal members.

Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
4.5.1 BIA Mapping projects - The BLM will support the mapping projects for the BIA and the Indian Buy Back effort by transferring parcel mapping capabilities, knowledge and skills to the BIA as well as providing technical support and high quality, up-to-date PLSS data.	Published data	completed mapping	BIA and BLM	Complete for FY2018 Recurring
4.5.2 Buy Back Program Support - The BLM will work collaboratively with the BIA Buy-Back Program, the Office of Appraisal Services (OAS), the Division of Minerals Evaluation (DME), and the BIA to coordinate the	Published data	completed land description updates	BIA, BLM and OAS	Complete for FY2018 Recurring

flow of information and services.				
Agency and/or Stakeholder		Activity through FY 2019, 2nd Quarter		
BIA		Published Tribal Reservation data set in January 2019. The BIA BOGGS has been dissolved with responsibility transferred to the Regional Offices.		

Goal 5: Parcel Data - Including Federal Rights and Interests and coordination of non-federal data sets Federal agencies do not have the authority to collect or maintain parcel data on non-federally managed lands. For non-federal lands facilitate an inventory of available parcel data and facilitate state aggregated standardized data. For federally managed lands (including tribal lands and offshore) coordinate with the managing agency to identify federal rights held or managed and facilitate sharing and data availability socialization of data sets, and provide outreach and communication mechanisms for federal land management agencies.				
Objective 5.1: Complete a parcel data web service standard Agency and/or Stakeholders Involved: BLM Anticipated Outcome: A definition and template for parcel web services that could be deployed by data producers (local governments) or data aggregators (state governments).				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
5.1.1 Form a working group to refine and scope this effort.				None
5.1.2 Develop a draft standard for review by data producers and commercial providers				None
5.1.3 Publish a parcel web services standard				None
Agency and/or Stakeholder		Activity through FY 2018, 4th Quarter		

Goal 6: Coordination (Across Themes and Levels of Government and the Private Sector) Cadastral data by its nature is used by many other themes and also consumes data from other themes. We have identified several coordination agencies and themes and will continue to work with these other themes to ensure consistent standardization, vertical alignment, and appropriate currency.				
Objective 6.1: Inputs - Identify themes that collect data that affect cadastral data Agency and/or Stakeholders Involved: BLM and Cadastral data stewards Anticipated Outcome: Continuous improvement and update of cadastral data themes and vertical integration with other themes				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
6.1.1 Integrate coordinates for international boundaries from International Boundary Commission as they become available		Published data sets	International Boundary Commissions	Complete and published
6.1.2 Define and pilot the accommodation of non-PLSS boundaries that may or may not be surveyed but are needed to map parcels with federal interests and may or may not have coincident boundaries with federal authority surveys (e.g., boundaries that reference cultural or physical features).			Federal Land Agencies affected by non-PLSS features. Pilot areas have been identified.	Complete for FY2018 Recurring
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			

Objective 6.2: Outreach Identify and establish connections with Data Stewards and known and new data users Agency and/or Stakeholders Involved: BLM and Cadastral data stewards Anticipated Outcome: Provide data updates to data users, track how the data are used, identify feedback from users, and provide updates.				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
6.2.1 Coordinate and work with the Government Units Strategic Plan Objective 3.1 Action 3.1.4 and Action 3.1.5 - Collaboration on identifying cadastral and boundary coincidence.	Convene 2 joint meetings	2 Joint Meetings held	BLM, Boundaries Working Group	Complete for FY2018 recurring
6.2.2 Provide access to updated data sets on an easily accessible web site. Socialize the availability of updates through social media outlets and direct emailing			Covered under Objective 2.1 included here for reference under outreach	Complete for FY2018 recurring
6.2.3 Identify state level data stewards and their needs and capacity to support updates.				In progress
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
BLM and volunteer contributions	Participated in PADUS Conference calls and BWG meeting at Esri UC in Washington DC in 2018			

Objective 6.3: Communication and Education Establish communication mechanisms and develop educational materials related to cadastral data themes Agency and/or Stakeholders Involved: BLM Anticipated Outcome: Ongoing communication and educational materials support the establishment of authoritative data and reduce duplication of effort.				
Actions (Describe discrete activities)	Milestones (A significant change in development with associated date)	Performance Indicators (A metric to assess progress of the action)	Action Responsibility (Agency, individuals, and/or groups leading the action)	Projected Completion Date (FY)
6.3.1 Continue to maintain the PLSS editing Geonet forum including responding to questions and posting updates			BLM	Complete for FY2018 Recurring
6.3.2 Continue to maintain the CadNSDI Twitter account by posting updates			BLM	Complete for FY2018 Recurring
6.3.3 Continue to develop and post videos and documentation related to cadastral data content, standards, maintenance, and stewardship			BLM	Complete for FY2018 Recurring
Agency and/or Stakeholder	Activity through FY 2018, 4th Quarter			
BLM	Updated outreach website with SSL certificates and validated data set publishing. Provide ongoing support for information requests and standards support			

Table 5. Theme Implementation Plan.